

● **DHK 189P**

High-Temperature Alpha-Amylase DHK189P

Description:

The product is a bacterial amylase preparation derived from *Bacillus licheniformis* extract. It has good tolerance to high temperature, can be widely used in manufacture of alcohol, brewery, vinegar, soy sauce, textile, dye & printing, papermaking etc.

Working Mechanism :

The enzyme is an endo enzyme it hydrolyzes the α -1,4-glucosidic linkages of gelatinized starch randomly to soluble dextrans, reducing the high viscosity of the starch slurry. Oligosaccharides, dextrin are also produced.

Properties:

1. Temperature : Effective Temperature Range : 55-100 °C , Optimum 85-95 °C , the enzyme still retains activity at 100 °C .The sudden temperature up to 105-110°C on spray liquefaction.
2. pH: Effective range is 5.0-8.0 , optimum pH 5.8 -6.5
3. Effect of Metal Ion on Enzyme activity : Ca^{2+} require 50-70ppm.

Specification:

1. Liquid type: 10,000 u/ml, 20,000 u/ml, 30,000 u/ml, 40,000u/ml

Solid powder type: 20,000u/g, 40,000u/g ;

food grade solid enzyme : 230000 u/g .

Liquid Enzyme Ph(25°C): 5.8-6.8, Specific Gravity: 1.10-1.25g/ml;

Solid Enzyme Soundness (0.4 mm mesh screen) : $\geq 80\%$

2. Unit activity definition: The amount of enzyme needed to hydrolyze 1mg of starch in one minute at pH6.0, 70 °C . It is as u/g (u/ml)

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Textile Auxiliaries Division ---2013/08 revised

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3. Standard : QB/T2306-97

Application Guide:

1. In brewing of beer, after completely blend with accessory materials such us corn starch, rice and barley etc in cereal cooker and water in the proportion of 1: 3-5 ,add the enzyme in one batch in the rate of 0.3 L/t for 20000 u/ml, raise the temperature to 92-97 °C , keep for 20-30 minutes. Raise temperature to 100°C when iodine test show reddish-brown.

2. In manufacture of alcohol, add the enzyme in the rate of 0.3 L/t for 20000 u/ml at pH 6.0-6.5, stir and raise the temperature to 100 ± 5 °C , keep for 100 minutes.

3. In manufacture of starch sugar or gourmet powder, add the enzyme in the rate of 0.6L/t (base on 40000 u/ml) at pH6.0-6.5, raise the temperature to 100 ± 5 °C , keep for 30 minutes at 95-100 °C or 60-120 minutes at 95 °C if steam (105 °C) injection method is used.

4. In textile desizing , the recommend optimum dosage (base on 20,000 u/ml) are as follows:

Dipping method dosage : 2.0-6.0g(ml)/L, pH6.0-7.0, at 85-95 °C, for 20-40 minutes ;

Continuous steam method dosage : 4.0-10.0g(ml)/L, pH6.0-7.0, at 95-105 °C, for 10-15 minutes.

Package and Storage:

Plastic drum is used for liquid type: 25kg/drum ,

Plastic weave bag is used for solid type: 20kg/bag. Further package customizable.

This product is organic biochemical substance, high temperature, strong acid & strong alkaline will cause inactivation of enzyme. So, avoid exposure to sunlight when being transported. Solid enzyme should avoid direct sunlight and rain. It should be kept in clean, cool and dry place, or you need to increase its dosage.

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